

IN THE CLAIMS

Please amend the claims as follows:

1-16. (Canceled)

17. (Original) A method for transmitting and receiving radio-frequency signals in an implantable medical device, comprising:

transmitting or receiving a modulated radio-frequency carrier at a specified carrier frequency to or from a dipole antenna formed by first and second conductive portions of a housing; and

emitting a significant portion of radio-frequency energy delivered to the antenna at the specified frequency as far-field radiation.

18. (Currently Amended) The method of claim 17, further comprising matching an impedance of the antenna to the transmitting/receiving circuitry at a specified carrier frequency by loading the antenna with inductance or capacitance using an antenna tuning circuit.

19. (Currently Amended) The method of claim 17, further comprising converting between a single-ended signal generated or received by the transmitter/receiver circuitry and a differential signal generated or received by the antenna with a balun transformer.

20. (Currently Amended) The method of claim 18, further comprising adjusting the resonant frequency of the antenna to a specified carrier frequency with a variable capacitor.

21. (New) The method of claim 17, wherein transmitting/receiving to or from a dipole antenna formed by first and second conductive portions of a housing includes forming the antenna from first and second conductive housing halves and separating the housing halves with an insulating material.

22. (New) The method of claim 21, wherein forming the antenna from two conductive housing halves includes enclosing at least part of either an electrical therapy circuit, RF circuitry, or a battery in the first housing half, and enclosing at least one of the remaining part of either the therapy circuit, the RF circuit, or the battery in the second housing half.

23. (New) The method of claim 22, wherein forming the antenna from two conductive housing halves includes enclosing only the battery in the first housing half.

24. (New) The method of claim 22, wherein forming the antenna from two conductive housing halves includes enclosing the battery and the RF circuitry in the first housing half.

25. (New) The method of claim 21, wherein forming the antenna from first and second conductive housing halves includes sizing an electrical length of the housing halves to approximately one-half wavelength or greater of the radio-frequency carrier at the specified frequency.

26. (New) The method of claim 21, wherein separating the housing halves with the insulating material includes separating the housing halves with a header compartment.

27. (New) The method of claim 17, wherein transmitting/receiving to or from a dipole antenna formed by first and second conductive portions of a housing includes isolating conductors of a therapy lead from RF signals.

28. (New) The method of claim 27, wherein isolating conductors of the therapy lead from the RF signals includes filtering the conductors of the therapy lead.

29. (New) The method of claim 28, wherein filtering the conductors of the therapy lead includes passing signals having frequencies within a predetermined band of frequencies.

30. (New) The method of claim 17, wherein transmitting/receiving a modulated radio-frequency carrier at a specified carrier frequency includes specifying the carrier frequency to within a range that includes 300 Mega-hertz (MHz) to 1 Giga-hertz (GHz).

31. (New) The method of claim 17, wherein transmitting/receiving a modulated radio-frequency carrier at a specified carrier frequency includes specifying the carrier frequency to about 2.2 Giga-hertz (GHz).

32. (New) An implantable medical device, comprising:

therapy circuitry for providing a functionality to the medical device;

RF circuitry for providing RF communications;

a battery for supplying power to the therapy and RF circuitry;

a first implantable housing portion made of conductive material and containing at least part of either the therapy circuitry, the RF circuitry, or the battery;

a second implantable housing portion made of conductive material and containing at least one of the remaining part of either the therapy circuitry, the RF circuitry, or the battery;

an insulator electrically separating the first and second housing portions;

wherein the RF circuitry is coupled to the first and second housing portions to create an electrical length that forms a far-field radiation dipole antenna for transmitting or receiving a modulated radio-frequency carrier at a specified carrier frequency.

33. (New) The device of claim 32, wherein the therapy circuit is coupled to a therapy lead, and wherein the conductors of the therapy lead are isolated from RF signals transmitted or received by the device.

34. (New) The device of claim 32, wherein the device further includes a low pass filter circuit coupled to the therapy lead and the therapy circuit to isolate the therapy lead conductors from the RF signals.

35. (New) The device of claim 32, further comprising an antenna tuning circuit electrically connected to the first and second housing portions and the RF circuitry to adjust the electrical length of the housing portions by loading the portions with inductance or capacitance.

36. (New) The device of claim 35, wherein the tuning circuit includes a balun transformer for converting between a single-ended signal generated or received by the transmitter/receiver circuitry and a differential signal generated or received by the antenna.

PRELIMINARY AMENDMENT

Serial Number: Unknown

Filing Date: Herewith

Title: SPLIT-CAN DIPOLE ANTENNA FOR AN IMPLANTABLE MEDICAL DEVICE

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Dkt: 279.302US2

Conclusion

Claims 1-16 are canceled without prejudice or disclaimer, claims 18-20 are amended and claims 21-36 are added. Claims 17-36 are now pending.

The application filing fee as calculated on the application transmittal sheet reflects the amendments to the claims described above.

The Applicant respectfully requests that the preliminary amendment described herein be entered into the record prior to examination and consideration of the above-identified application.

Respectfully Submitted,

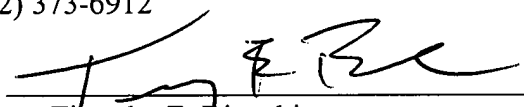
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